

Work Order ID 143971-1

143971

Page 1

March 28, 2016 2:59:42 PM

Item ID: D212-725-1-937 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Tube
 Start Date: 4/1/2016 Start Qty: ~~5.00~~ *5* Cust Item ID:
 Required Date: 4/14/2016 Req'd Qty: 5.00 *5* Customer:
 Reference:

Approvals: Process Plan: SUR Date: 20160329 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4257	Rev B

100 0.00
 100
 Purchasing
 Purchasing

Memo
 Issue P/O: 31882
 Ship to ~~FIELD AVIATION~~
 Fabricate D212-725-1-937 as per dwg D4257

Certificate of conformity is required

S MAR 31 2016 DAS 13 9-89

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110
 Packaging
 Packaging

Memo 0.00

5x Sp/6-05-02

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 143971

March 28, 2016 2:59:43 PM

143971

Page 2

Item ID: D212-725-1-937 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tube
 Start Date: 4/1/2016 Start Qty: 5.00 ***5*** Cust Item ID:
 Required Date: 4/14/2016 Req'd Qty: 5.00 ***5*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo <i>Assemble Tube per dwg</i>	0.00 0.00				<u>5</u>			<i>FF</i> MAY 03 2016
<i>#121*</i> Small Fab 130 *130* Packaging Packaging	Identify as per dwg & Stock Location: _____ Memo <i>sold</i>	0.00 0.00				<u>1</u>	<u>FF</u>		MAY 04 2016
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.01							<i>MCS</i> MAY 04 2016

SIA 20160503

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

March 28, 2016 2:59:42 PM

Page 1

Work Order ID: 143971

143971

Parent Item: D212-725-1-937

D212-725-1-937

Parent Item Name: Tube

Start Date: 4/1/2016

Required Date: 4/14/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 13.10.08 AS PER DWG REV.B DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D212-725-1-937P

Purchased

No

Each

0.0000

5

~~*D212-725-1-937P*~~

**

5X 80/6-05-02

Tube

DAS
13
9-09

MAR 29 2016

D212-725-1-a13

X 81

FF

MAY 04 2016

AN818-10J

M 134509

X 81

FF

MAY 04 2016

MS20819-10J

n 123561

X 81

FF

MAY 04 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

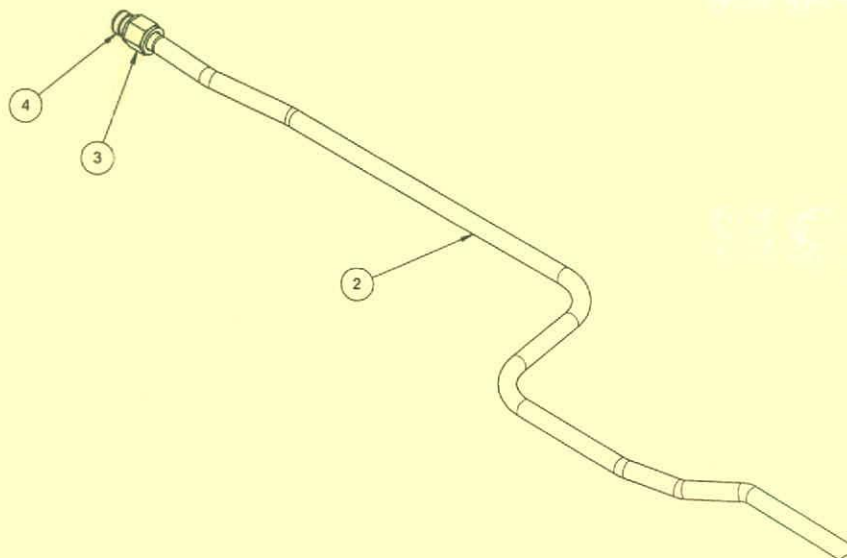


QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
SHEC 10 YAM SHEC 10 YAM								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

ITEM NO.	QTY. -937	PART NUMBER	DESCRIPTION
1	X	D212-725-1-937	TUBE ASSEMBLY
2	1	D212-725-1-213	TUBING
3	1	AN818-10J	NUT
4	1	MS20819-10J	SLEEVE



D212-725-1-937 TUBE ASSEMBLY

NOTES:

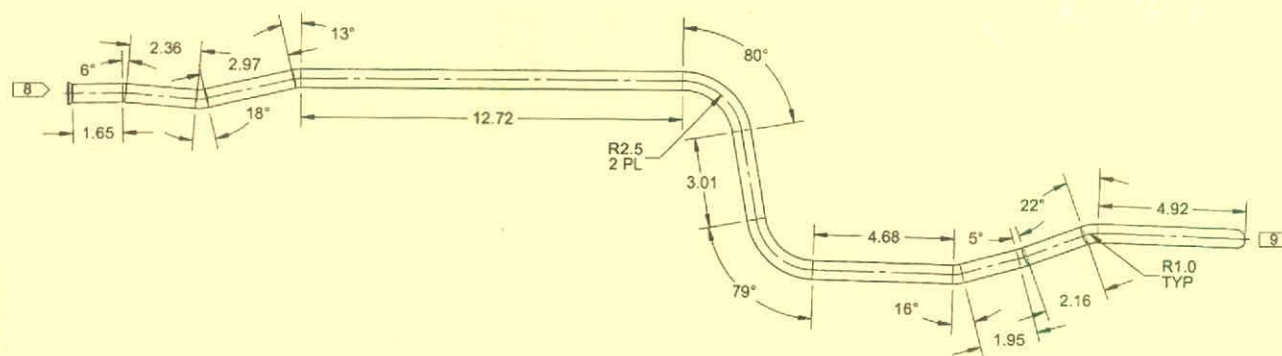
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.93 lbs

RELEASED
2013-10-07

20160329

SA 143971

B	UPDATED PER 3D SCAN	DC	13.07.11
A	NEW ISSUE	RF	11.02.24
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4257	SHEET 1 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TUBE ASSEMBLY	NTS
DATE	13.07.11	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D212-725-1-213 TUBING

RELEASED
2013-10-07
mp

NOTES:

- 1) MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL ROUND TUBING, $\varnothing 0.625 \times 0.035$ WALL
PER ASTM A213 OR ASME SA213 OR ASTM A269
REF DART SPEC. M304TR0.625W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.81 lbs
- 8) FLARE TUBE PER MS33584 THIS END
- 9) CUT TUBE 45° AT THIS END

DESIGN	<i>DC</i>	DART AEROSPACE LTD	
DRAWN	<i>DC</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>DC</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>DC</i>	D4257	SHEET 2 OF 2
APPROVED	<i>DC</i>	TITLE	SCALE
DE APPR.	<i>DC</i>	TUBE ASSEMBLY	NTS
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO31882

Purchase Order Date 3/31/2016

PO Print Date 3/31/2016

Page Number 1 of 2

Order From :

VC-ATB001

Ship To : DART AEROSPACE LTD

AGGRESSIVE TUBE BENDING
9750 - 188TH STREET
SURREY, B.C. V4N 3M2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

revised

Contact Name

Vendor Phone 604-882-4872

Ship To Contact

Ship To Phone

Ship Via: FedEx Overnight collect

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D212-725-1-213 ✓ FRABRICATE AS PER DWG D4257 REV. B B143971	Tubing	4/21/2016 Yes 4/21/2016		5.00 Each	\$148.00	\$740.00
						Line Total:	\$740.00
3	71401-45	PROCUREMENT QUALITY CLAUSES	4/21/2016 No 4/21/2016		1.00	\$0.00	\$0.00
Procurement Quality Clauses A004 faa-pma/tso A005 right of entry A016 personnel qualification A017 raw material identification (as applicable) A026 certification of conformance A040 notification of quality escape A041 quality management A042 dart noyification by supplier A043 retention of quality documents							

SP/6-05-02

Note:

3/31/2016



**AGGRESSIVE TUBE BENDING INC.**

9750 188th Street
Surrey, BC V4N 3M2
Phone: 1-604-882-4872
Fax: 1-604-882-4873

PACKLIST

Packlist ID: 28221
Date: 2016-04-25
Page: 1 of 1

Shipped By: TERRY

Sold To Address	Ship To Address
DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7 CANADA	DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7 CANADA

CUSTOMER ID		CUSTOMER PO		PAYMENT TERMS		F.O.B.	
2883		PO31882		Net 30			
SALES REP ID		SHIPPING METHOD		SHIP DATE		OUR ORDER NUMBE	
YT		FEDEX 1-800-463-3339		APR 26/16		16-0403	
QUANTITY		PART ID		DESCRIPTION		PART NO.	
ORD	SH	BCK					DRAWING #

5

5

0

V

SUP/BEND .625 X .035 316 SMLS

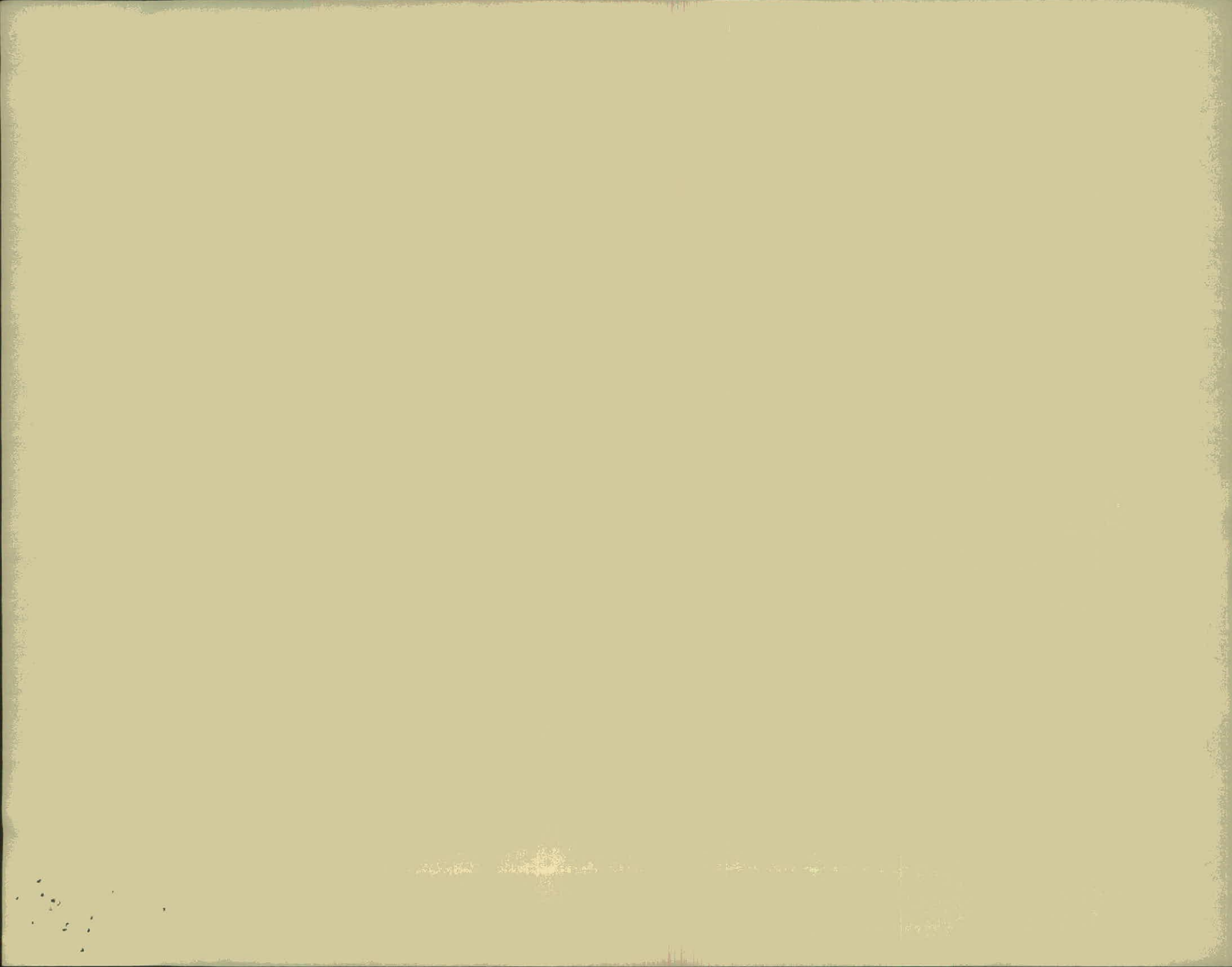
DWG D4257
Rev: B

ORDER SPECIFICATIONS

SP/16 05-02

RECEIVED BY: _____

QA REQUIREMENTS: Mill Test Reports



KAISER ALUMINUM

FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER 61-3160822		CUSTOMER PART NUMBER AT/ 625 035/734		PRODUCT DESCRIPTION Seamless Tube/Pipe	
KAISER ORDER NUMBER 217053	LINE ITEM 003	SHIP DATE 09/19/2014	KAISER LOT NUMBER F00172978	ALLOY 6061	TEMPER T6
WEIGHT SHIPPED 687.000 LB	QUANTITY 749.000 PCS	B/L NUMBER 216925	DIAM/DAF/THKNS	WIDTH	LENGTH 12.000 FT
SHIP TO MARMON/KEYSTONE CORP 32944 US HIGHWAY 6 SPRING VALLEY, IL 61362 USA			SOLD TO MARMON/KEYSTONE CORP 1000 REMINGTON BLVD SUITE 305 BOLINGBROOK, IL 60440 USA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00172978	0001	1	47.6	44.6	12.5	N/A	N/A	N/A
F00172978	0002	1	47.2	44.1	13.5	N/A	N/A	N/A
F00172978	0003	1	49.4	45.8	13.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D73277	.63	.31	.25	.06	1.00	.10	.09	.03	.00	.00	.00	.01	.02

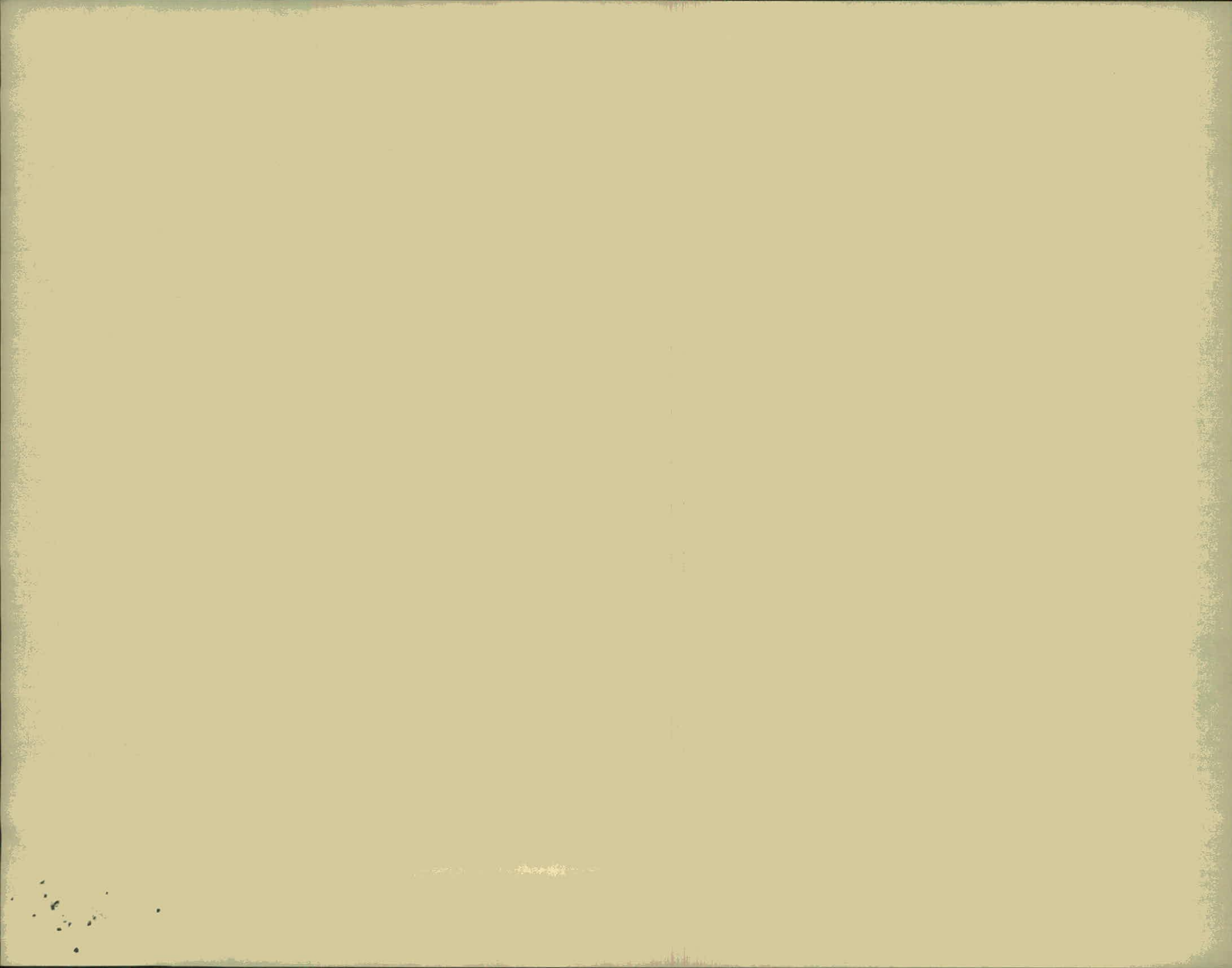
Applicable Requirements:

Description: MADE IN USA
OD: 0.625"; Wall: 0.035"; Round Ø
AMS-4082P ASTM B210-12 WW-T-700/6F
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS-4082P, WAS NOT OILED.
COMPLIES TO DIN EN 10204 JAN 2005
COMPLIES TO DFAR 252.225-7001 and DFAR 252.225-7014
No Weld Repair. Mercury Free.

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA

Plant Serial: 00017937
Kaiser Order Number: 217053
Line Item: 003



KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT
<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W WILLIS ROAD
CHANDLER, AZ 85226

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Nathaniel Stevens, Quality Manager

Nathaniel Stevens

QC REVIEWED

JAN 26 2015

Plant Serial: 00017937
Kaiser Order Number: 217053
Line Item: 003



Hawkesbury, ON K6A 1K7
Tel: 1-613-632-3336 Fax: 1-613-
632-4443
sales@dartaero.com

SHIPPING PICKLIST

Shiplist ID : PL134126
Shiplist Date : 5/3/2016
Sales Order ID : SO125659

Customer POID : PO-16-000993

Page Number : 1 of 1

Bill To :

CEAGL03

EAGLE COPTERS MAINTENANCE LTD
823 MCTAVISH RD., NE
CALGARY, AB T2E 7G9
CANADA

Ship To :

EAGLE COPTERS MAINTENANCE LTD
823 MCTAVISH ROAD NE
CALGARY, ALBERTA T2E 7G9
CANADA
1 403 250 7370

Buyer: SHARON COOK
Order Date: 3/28/2016 12:01:12 PM
Partial Ship: Yes
FOB: Ex Works DART Aerospace

Contact Name: SHARON COOK
Contact Phone: 1 403 250 7370
Contact Phone Ext:

Ship From: MAIN WAREHOUSE
DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7 CANADA
Ship From Phone: 613 632 5200

Line	Item ID	Repl	Rev Level	Req Date	Req Qty/	To Pick Qty/	Backorder	Primary/	Picked	Emp ID
or	Item Name	Item ID	Harmonize	Promise Date	Sales U/M	Stock U/M	Qty	Last Location	Qty	
	Customer Item ID		Code:		Line Description					
	D212-725-1-937			5/4/2016	1.0000	1.0000	1.0000			
	Tube			4/15/2016	Each	Each	Each			
			7304.49.0060							

Ship Method: FedEx Economy

DAS
28
0.25

MAY 04 2016

MAS
27
0.20

Special Inst: CAITLIN - FEDEX ECONOMY - DO NOT INSURE SHIPMENTS

Customer Comments: DO NOT INSURE SHIPMENTS -

Sales Order Revision: 4

Thank You!

Box: 48x10x10
10 lbs

